

1 Software change description.

1.1 CALDB Data

The following changes were made to the IXPE CALDB:

1. data/ixpe/gpd/cpf/arf:
 - For each detector and for each of the three different weight schemes (denoted by either no extra string, the “alpha075_” string or the “alpha075simple” string), added multiple new updated versions (each supplanting the other) of .arf files. All these new files (i.e., those without the “_g_” string in the file name) have an additional keyword/value “FILTER=OPEN” to allow them to be selected for observations that use the “OPEN” setting of the filter and calibration wheel (FCW).
 - For each detector and for each of the three different weight schemes, new files were added (those with the “_g_” string in the file name) with responses for observations made with the “GRAY” filter setting of the FCW. These contain the additional keyword/value “FILTER=GRAY”.
2. data/ixpe/gpd/cpf/mrf:
 - For each detector and for each of the three different weight schemes (denoted by either no extra string, the “alpha075_” string or the “alpha075simple” string), added multiple new updated versions (each supplanting the other) of .mrf files. All these new files (i.e., those without the “_g_” string in the file name) have an additional keyword/value “FILTER=OPEN” to allow them to be selected for observations that use the “OPEN” setting of the filter and calibration wheel (FCW).
 - For each detector and for each of the three different weight schemes, new files were added (those with the “_g_” string in the file name) with responses for observations made with the “GRAY” filter setting of the FCW. These contain the additional keyword/value “FILTER=GRAY”.
3. Data/ixpe/gpd/index:
 - Added the new index file caldb.indx20230526, which contains updates that include all the files in (1) and (2) above.
4. Data/ixpe/gpd/caldb.indx:
 - Updated to point to the file in 3.a above.
5. Data/ixpe/xrt/bcf/boomdrift:
 - Ixpe_a0_20230220_boomdrift_01.fits updates the start date of the boom drift coefficient file to include all times since launch.
6. Data/ixpe/xrt/bcf/reef:
 - Added new version 03 and 04 of the files for each mirror. These correct errors found in the radial distribution of the encircled energy distribution functions, in which zero values were incorrectly given for certain combinations of angles.
7. Data/ixpe/xrt/bcf/vign:
 - Added new version 04 files which correct for errors in which certain azimuthal and off-axis angle bins were incorrectly assigned values of zero.
8. Data/ixpe/xrt/index:

- Added new CALD index file caldb.indx20230526 which includes all the new files in 5-7 above.
9. Data/ixpe/xrt/caldb.indx:
- Updated to point to index/caldb.indx20230526.